UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte CARLO RUBBIA

Appeal No. 2006-1812
Application No. 09/446,144

ON BRIEF

Before OWENS, CRAWFORD, and FETTING, Administrative Patent Judges.

CRAWFORD, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 9, 12, 17 to 25, 28, 31 and 32. Claims 10, 11, 13 to 16, 26, 27, 29, 30 and 33 to 48 have been withdrawn from consideration.

The appellant's invention relates to a method of element transmutation by neutron capture of an initial father isotope, embedded in a diffusing medium which is highly transparent to neutrons (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

THE PRIOR ART

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Borst	3,197,375	Jul. 27, 1965
Ruddock	4,123,497	Oct. 31, 1978
Bowman	5,160,696	Nov. 3, 1992

Glasstone, Samuel, "Principles of Nuclear Reactor Engineering", D. Van Nostrand Company, Inc., pgs. 87-89, first ed. (July 1955).

National Research Council Conference on Glossary of Terms in Nuclear Science and Technology, "A Glossary of Terms in Nuclear Science and Technology", pg. 177 (1957).

THE REJECTIONS

Claims 1 to 9, 12, 17 to 25, 28 and 31 to 32 stand rejected under 35 U.S.C. § 112, first paragraph, because the specification does not enable a person to make and use the invention.

Claims 1 to 9, 12, 17 to 25, 28, 31 and 32 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 to 9, 12, 17 to 20, 23 to 25 and 28 stand rejected under 35 U.S.C.

§ 102(b) as being anticipated by Bowman.

Claims 21 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bowman in view of Borst.

Claims 31 and 32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bowman in view of Ruddock.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (mailed December 2, 2005) for the examiner's complete reasoning in support of the rejections, and to the brief (filed September 19, 2005) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

It is appropriate to review the rejection under the second paragraph of 35 U.S.C. § 112 before we review the rejection under the first paragraph of 35 U.S.C. § 112, because the analysis of the claims under the first paragraph of 35 U.S.C.

§ 112 requires one to have determined exactly what subject matter the claims encompass under the second paragraph of 35 U.S.C. § 112. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

Indefiniteness Rejection

The second paragraph of 35 U.S.C. § 112 requires claims define the metes and bounds of the claimed invention with a reasonable degree of precision and particularity. In re Johnson, 558 F.2d 1008, 1015, 194 USPQ 187, 193 (CCPA 1977); See In re Venezia, 530 F.2d 956, 958, 189 USPQ 149, 151 (CCPA 1976). In making this determination, the definiteness of the language employed in the claims must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. Id.

> Claim 1 of the instant application recites a method which includes the step of :
>
> providing a neutron-diffusing medium around a neutron source, wherein the diffusing medium is substantially transparent to neutrons and includes an inner buffer region
>
> Appellant's specification defines transparency as:
>
> Transparency is meant as the property of a medium in which neutrons undergo *mostly* elastic scattering [specification at page 2][emphasis added].

The examiner states:

> . . . there is no standard set forth by applicant what constitutes **mostly** elastic scattering, i.e., 2/3, 5/8, 3/4, etc.[final rejection at page 3]
>
> Mostly only involves greater than ½. However, no standard is set forth by Appellant [answer at page 12].

Appellant's argue that the term "mostly" means more than half as the plain meaning of the term clearly suggests.

Claim 1 recites that the diffusing medium is *substantially* transparent. Appellant's specification does not provide any guidance as to what might constitute a medium that is substantially transparent and it does not appear to us that this claim language has any clear meaning when read in light of the originally filed specification. In fact, as pointed out by the examiner, it is unclear what is meant by the term transparency in that the specification defines transparency as a property of a medium in which neutrons undergo *mostly* elastic scattering. When the claim language of a "substantially transparent" medium is considered in light of the definition of transparency in the specification of being a property of a medium in which neutrons undergo "mostly elastic scattering," it is our opinion that the claims fail to define the metes and bounds of the claimed invention with a reasonable degree of precision and particularity. Therefore, we will sustain this rejection as it is directed to claim 1 and claims 2 to 9 and 12 dependent thereon. We will likewise sustain this rejection as

it is directed to claim 17 and claims 18 to 25, 28, 31 and 32 dependent thereon because claim 17 also recites the medium is substantially transparent.

Enablement Rejection

We will not sustain the examiner's rejection of claims 1 to 9, 12, 17 to 25, 28, 31 and 32 under 35 U.S.C. § 112, first paragraph. While we might speculate as to what is meant by the claim language, our uncertainty provides us with no proper basis for making the enablement determination that we are obliged to do. Enablement rejections under 35 U.S.C. § 112, first paragraph, should not be based upon considerable speculation as to the meaning of terms employed and assumptions as to scope of the claims. See In re Moore, 439 F.2d at 1235, 169 USPQ at 238.

Prior Art Rejections

We will also not sustain the examiner's prior art rejections of claims 1 to 9, 12, 17 to 20, 23 to 25 and 28 under 35 U.S.C. § 102(b) and of claims 21 to 22, 31, and 32 under 35 U.S.C. § 103. As we held above, no reasonably definite meaning can be ascribed to the language appearing in the claims regarding a medium that is

"substantially transparent". As the court in In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970) stated:

> All words in a claim must be considered in judging the patentability of that claim against the prior art. If no reasonably definite meaning can be ascribed to certain terms in the claim, the subject matter does not become obvious --the claim becomes indefinite.

In comparing the claimed subject matter with the applied prior art, it is apparent to us that considerable speculations and assumptions are necessary in order to determine what in fact is being claimed. Since a rejection based on prior art cannot be based on speculations and assumptions, see In re Steele, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962), we are constrained to reverse, pro forma, the above-noted rejections under 35 U.S.C. §§ 102(b) and 103. We hasten to add that this reversal is not based upon the merits of the rejections.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

TERRY J. OWENS
Administrative Patent Judge

MURRIEL E. CRAWFORD
Administrative Patent Judge

ANTON W. FETTING
Administrative Patent Judge

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